

Translating Heat-related Illness Surveillance Into Action Through Partnerships

David J. Swenson*, Kenneth A. Dufault and Matthew J. Cahillane

DHHS, Concord, NH, USA

Objective

During this presentation NH Division of Public Health Services (NH DPHS) will share how it was able to develop an effective HRI surveillance response through the development of partners, which allowed State of NH decision makers to affect action beyond detection.

Introduction

As part of a greater statewide excessive heat response plan, New Hampshire (NH) has been performing HRI surveillance since 2010 to guide response efforts and ultimately reduce HRI morbidity and mortality during situations of excessive heat. Historically, NH hospital Emergency Department Heat illness discharges average around 150 per year, typically in the summer months. NH's Excessive Heat Emergency Response Plan documents appropriate state-wide readiness, alerting, emergency, and recovery level of response for heat emergencies with its partners. Together with near real-time surveillance data, flexible query tools, and communication templates, NH is better able to respond to excessive heat emergencies at a moment's notice and take action with its partners to reduce HRI emergencies.

Methods

NH DPHS began with the development of an Excessive Heat Emergency Response Plan based on federal guidance with emergency response partners, continued with the development of a HRI case definition and surveillance query (tweaked to identify the most critical illness and injuries related to excessive heat emergencies), performed surveillance, then shared detections with emergency preparedness partner decision makers for placement of cooling centers based on need. Critical elements of this excessive heat surveillance response included identification and building relationships with invested partners, development of response plan triggers, a relevant case definition, and the use of flexible analysis and emergency communication tools and reporting templates. A flexible data mining query tool in the Automated Hospital Emergency Department Data (AHEDD) surveillance system was used to develop the HRI query, which was based on the HRI case definition. Daily HRI detection counts, town line data, and GIS maps were shared with Emergency Preparedness decision makers during excessive heat events.

Results

NH DPHS staff and Emergency Preparedness partners worked together smoothly during excessive heat emergencies. Pre-event planning activities resulted in the development of a plan with key components that provided who, what, when guidance as excessive heat conditions escalated. Development of a reliable HRI case definition and queries with feedback from public health clinical staff resulted in more critically ill or injured HRI patient detections. Based on 2010 through 2012 location detections, the highest HRI ill and injured numbers occurred in the month of July in the southeast counties (where populations are higher). In 2010 and 2012, the two age groups experiencing greater illness and injury rates were 18 to 64 year olds (> 50% of encounters), and those 65 years and older age (> 28% of encounters). In 2011, higher rates were noted for those in the 5 to 24 age group (35%), followed by the 24 to 49 age group (32%). Quicker

response and more informed communication regarding excessive heat related illness and injury resulted from the use of flexible surveillance query tools and the development of pre-event communication mechanisms and reporting tools. HRI illness and injury detections by location informed Emergency Preparedness partner decision makers where to place cooling resources.

Conclusions

NH's excessive heat response strategy targets the building of partnerships and the use of technology for actionable interventions. Development of heat plans ahead of events with invested partners improves resource allocation. The use of timely morbidity and mortality surveillance data and flexible surveillance tools allow public health to meet immediate HRI surveillance and reporting needs. Pre-event communication channels and reporting templates allow for a faster jurisdictional response to Emergency Preparedness decision makers. Emergency Preparedness decision makers are able to allocate cooling resources based on excessive heat surveillance data. NH's excessive heat response serves not only as a template for translating surveillance to action for other NH surveillance, but for all jurisdictions.

Keywords

Heat-Related Illness; Surveillance; Situational Awareness

Acknowledgments

NH DPHS would like to acknowledge our partners, including the NH Emergency Service Unit, the Department of Safety's Homeland Security and Emergency Management (HSEM), State Emergency Operations Center staff for their continued support of the NH excessive heat response.

*David J. Swenson

E-mail: dswenson@dhhs.state.nh.us

